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SEVEN NEW SPECIES AND ONE NEW GENUS OF HYDROIDS, MOSTLY FROM THE ATLANTIC OCEAN

By C. McLean Fraser

Some time ago the United States National Museum forwarded to me for examination a large collection of hydroids taken mostly by the United States Bureau of Fisheries from the North American coastal area of the Atlantic Ocean. As yet only about one-third of the material has been examined, but this has provided nearly 600 distribution records of 127 species. At this stage it would not be expedient to assemble and digest these distribution records, but it might be a good time to report and describe the new species already observed. There are seven of these species, one of them apparently belonging to a new genus, and a gonosome of a species in which the trophosome has already been described. All but one of these were obtained from the Atlantic. The exception, *Diphasia crassa*, appeared in dredged material obtained on the west coast of Chile, a short distance north of the western entrance to the Strait of Magellan.

I wish here to express my appreciation of the courtesy shown by the United States National Museum in providing the opportunity to examine this interesting material. I am indebted, as well, to Miss Ursula Dale, assistant in the department of zoology in the University of British Columbia, for drawing the figures.

Genus EUDENDRIUM Ehrenberg

EUDENDRIUM RUGOSUM, new species

Plate 32, Figure 1

Trophosome.—Colonies growing in close clusters, reaching a height of 15 mm.; stems simple, not annulated, but decidedly wrinkled

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throughout, as are also the branches and pedicels. Branches leave the stem at an acute angle and pass upward in the same general direction as the stem; pedicels for the hydranths forming an acute angle with the branches.

Gonosome.—Male gonophores borne on pedicels arising from the main stem or the branches in a whorl, around the base of an aborted hydranth; 3-chambered. Female gonosome not observed.

Type.—U.S.N.M. No. 43433. Taken by the United States Fisheries steamer *Albatross* southeast of Newfoundland, latitude 46°53′ N., longitude 44°39′30″ W., 76 fathoms, August 11, 1886.

Genus CAMPANULARIA Lamarck

? CAMPANULARIA ABYSSA, new species

PLATE 32, FIGURE 2

Trophosome.—Colony 2 cm. high; stem simple, slender, not extensively branched, usually one branch from a node, but sometimes two opposite branches, making a wide angle with the stem; hydrothecae regularly alternate, with pedicels much the same length as the hydrothecae; pedicel tapering into base of hydrotheca, and the hydrotheca increasing in diameter very gradually to the margin, so that the hydrotheca is not far from being tubular; margin entire, sometimes duplicated; diaphragm delicate, much like that in *Lictorella.*

The whole colony is almost free of annulations; occasionally there is one near the proximal end of the branch and one or two throughout its length, always appearing singly.

Gonosome.—Unknown.

Type.—U.S.N.M. No. 43434. Taken by the United States Fisheries steamer *Albatross* southeast of Cape Cod, latitude 39°22′50″ N., longitude 68°25′ W., 1,608 fathoms, July 19, 1883.

This species can be put in this genus only provisionally, since no gonosome was present in the material. It is doubtful even whether it should be placed in the Campanularidae, since the diaphragm is not typically campanularian.

Genus GONOTHYRAEA Allman

GONOTHYRAEA INTEGRA, new species

PLATE 32, FIGURE 3

Trophosome.—Colonies minute, less than 8 mm. in length, unbranched, with one branch, or with very few branches; stem slender, slightly geniculate, annulated at the base and above each node; hydrothecae regularly alternate from pedicels that are annulated at both ends, leaving only a small part free of annulations; hydrothecae broadly campanulate, almost or quite as deep as wide; margin entire.

Gonosome.—Gonangium oval or obovate, supported on short, annulated pedicels, growing from the axils of the hydrothecal pedicels.

Type.—U.S.N.M. No. 43435. Taken by the United States Fisheries steamer *Fish Hawk*, 1¼ miles from North Light, Block Island, east of Long Island, N. Y., on *Sargassum* dredged in 13 fathoms, August 24, 1880.

This species was associated with *Gemmaria costata*, *Clytia cylindrica*, *Halecium bermudense*, and *Aglaophenia minuta*, all, at times, Gulf weed species. The *Sargassum* must have drifted north in the Gulf Stream and then been sidetracked to sink in this location.

Genus EGMUNDELLA Stechow

EGMUNDELLA FASCICULATA, new species

PLATE 32, FIGURE 4

Trophosome.—Colonies strongly fascicled in the basal portion, reaching a height of 35 mm.; the terminal portion of the main stem and of the branches simple; the simple portion may be short or rather long, supporting several hydrothecae; stems, branches, and pedicels smooth, or at the most slightly wavy, no distinct annulations; the pedicels growing from the fascicled portion of the stem are commonly longer than those from the simple stem or portion of branch.

Hydrotheca broadening gradually and slightly toward the distal end; operculum of rather few segments, 8 or at most 10.

On the fascicled portion of the stem and on the pedicels arising from that portion, there are numerous large nematophores, singly or in groups of two or three; none was observed on the simple portion of the stem or branches.

Gonosome.—Unknown.

Type.—U.S.N.M. No. 43436. Taken by the United States Fisheries steamer *Fish Hawk* off Marthas Vineyard, latitude 40°03′ N., longitude 70°31′ W., 100 fathoms, August 31, 1881.

Genus STEGOPOMA Levinsen

STEGOPOMA FASTIGIATA (Alder)

PLATE 33, FIGURE 5

Calycella fastigiata ALDER, Ann. Mag. Nat. Hist., ser. 3, vol. 3, p. 73, 1860.

Trophosome.—Individual hydrothecae growing at irregular intervals from a smooth, slender stolon, definitely pedicellate, straight, almost tubular, but rather rapidly tapering to the pedicels; operculum consisting of the regular two membranes meeting along a ridge, with the walls of the hydrotheca produced to form a gable to support the operculum.

Gonosome (not previously described).—Gonangium arising from the stolon with a pedicel similar to that of the hydrotheca, similar in shape but much larger and somewhat curved; distal end obliquely truncate, narrowed but slightly: sporosacs few, similar in appearance to those in the genus *Gonothyraea*.

Type—U. S. N. M. No. 43437. Taken by the United States Fisheries steamer *Fish Hawk* off Marthas Vineyard, latitude 40°03′ N., longitude 70°31′ W., growing over a *Halecium* in 100 fathoms, August 23, 1881.

Genus HALECIUM Oken

HALECIUM DIMINUTIVUM, new species

PLATE 33, FIGURE 6

Trophosome.—Colony minute from a creeping stolon, with no continuous main stem; a simple pedicel grows from the stolon, giving rise to a flaring hydrophore, terminally; in some cases, just below the hydrophore, a second pedicel may be given off, turning upward abruptly at the base; in one instance this is repeated so that there are three hydrophores in the colony; this colony had a total length of 1.2 mm. The stolon is not annulated, but the pedicels are decidedly so; the interspace extends outward to a decided ridge so that the surface of the pedicel is much more irregular than in ordinary annulated pedicels or stems.

Gonosome.—Unknown.

Type.—U.S.N.M. No. 43438. Taken by the United States Bureau of Fisheries on Nantucket shoals, on *Sertularella*, depth not given.

EUPERISIPHONIA, new genus

Trophosome.—Colony with a stout, rigid stem and somewhat slenderer, but still rigid, branches. Stem and branches fascicled, the fascicle consisting of an axial tube, bearing hydrothecae, and several peripheral tubes that are nonthecate. The hydrothecae are regularly alternate, loosely adherent for a portion of their length. On the main portion of the axial tube there are no nematophores, but one is present at the base of each hydrotheca. The peripheral tubes are provided with numerous long, slender nematophores.

The trophosome of this species resembles that of *Perisiphonia* but differs from it in having adherent hydrothecae and nematophores at the base of the hydrothecae.

Gonosome.—Unknown.

Genotype.—*E. rigida*, new species.

EUPERISIPHONIA RIGIDA, new species

PLATE 33, FIGURE 7

Trophosome.—Colony consisting of a straight, rigid, fascicled stem (largest fragment 3.5 cm.) and stiff, straight branches given off in subopposite pairs, almost at right angles to the stem. The axial tube is slender, with hydrothecae arranged in regular alternation. Hydrotheca on a short pedicel, tubular, with a sharp curve, so that the distal portion is almost at right angles to the proximal portion, with a distinct perisarcal thickening in the concavity; the basal portion, at least one-half, is adherent to the stem, from which it is readily separated by immersion in hot, weak potash solution. There may be one or two reduplications of the margin, which is entire. There is a nematophore on each pedicel, near the base of the hydrotheca.

The peripheral tubes are more numerous in the proximal portion of both stem and branches, but they do not disappear entirely even at the tips of the branches; they bear no hydrothecae, but the long, slender nematophores are numerous.

Gonosome.—Unknown.

Type.—U.S.N.M. No. 43439. Taken by the United States Fisheries steamer *Albatross* in Yucatan channel, latitude 20°59′30″ N., longitude 86°23′45″ W., 130 fathoms, January 22, 1885.

Genus DIPHASIA Agassiz

? DIPHASIA CRASSA, new species

PLATE 33, FIGURE 8

Trophosome.—Stem heavy and coarse, rigid, and straight, divided into regular internodes by transverse nodes; each internode with a proximal pair of opposite hydrothecae, then an opposite pair of branches, followed by two opposite pairs of hydrothecae. Branches given off in opposite pairs from the stem are slenderer than the stem but still stiff and rigid; constrictions between the pairs of hydrothecae form rather indefinite nodes. Hydrothecae opposite, although there may be a single one at the proximal end of the branch, cylindrical, curved slightly outward, adnate for the greater part of their length; margin entire or very slightly sinuous, sometimes with reduplications; operculum delicate, of one adculine flap.

Gonosome.—Unknown.

Type.—U.S.N.M. No. 43440. Taken by the United States Fisheries steamer *Albatross*, southwest coast of Chile, latitude 51°12′ S., longitude 74°13′30″ W., 258 fathoms, February 6, 1888.

EXPLANATION OF PLATES

(All figures magnified approximately 20 diameters)

PLATE 32

1. *Eudendrium rugosum:* Portion of colony showing the wrinkled perisarc and the male gonophores.
2. *Campanularia abyssa: a,* Portion of colony showing nature and arrangement of the hydrothecae; *b,* portion of colony showing branching.
3. *Gonothyraea integra:* Portion of colony showing hydrothecae and gonophores.
4. *Egmundella fasciculata: a,* Portion of fascicled stem showing position of the nematophores; *b,* portion of simple stem without nematophores.

PLATE 33

5. *Stegopoma fastigiata: a,* Portion of colony showing hydrotheca and gonophore; *b,* another view of the hydrotheca.
6. *Halecium diminutivum: a,* Portion of stolon with single hydrophores and one colony with two hydrophores; *b,* a colony with three hydrophores.
7. *Euperisiphonia rigida: a,* Portion of colony showing fascicled stem and branches; *b,* portion of the axial tube bearing hydrothecae; *c,* portion of the axial tube with the hydrothecae separated from the wall of the tube.
8. *Diphasia crassa: a,* Portion of main stem showing the proximal part of the opposite branches; *b,* portion of branch showing arrangement of the hydrothecae.

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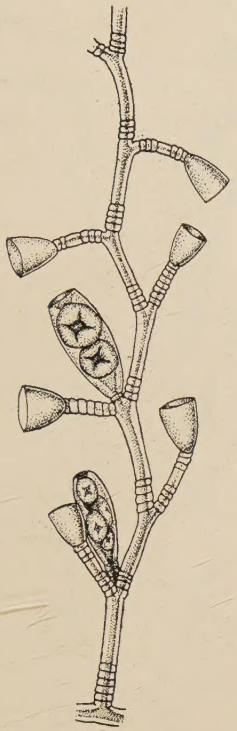

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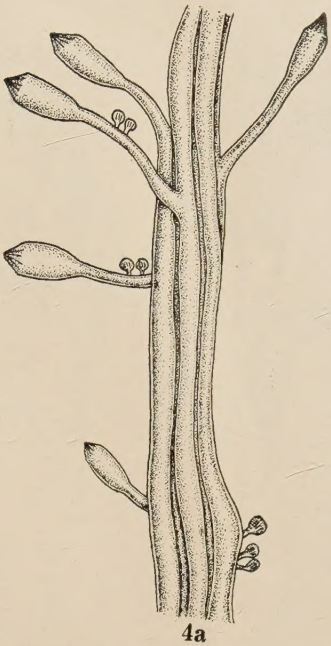

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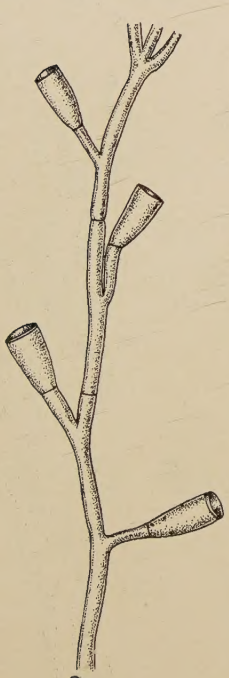

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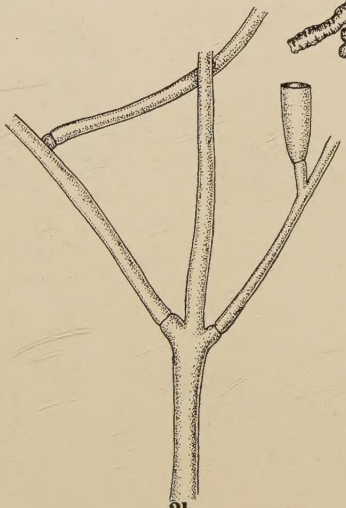

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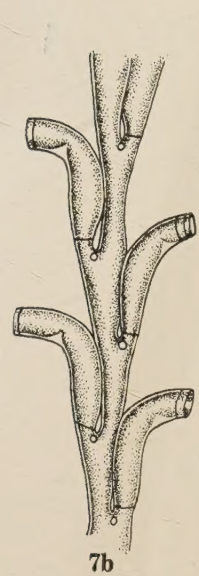
NEW ATLANTIC HYDROIDS.

FOR EXPLANATION SEE PAGE 580.



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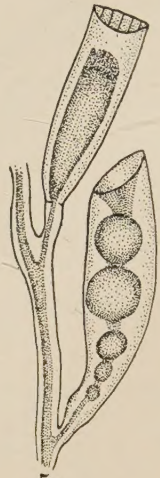

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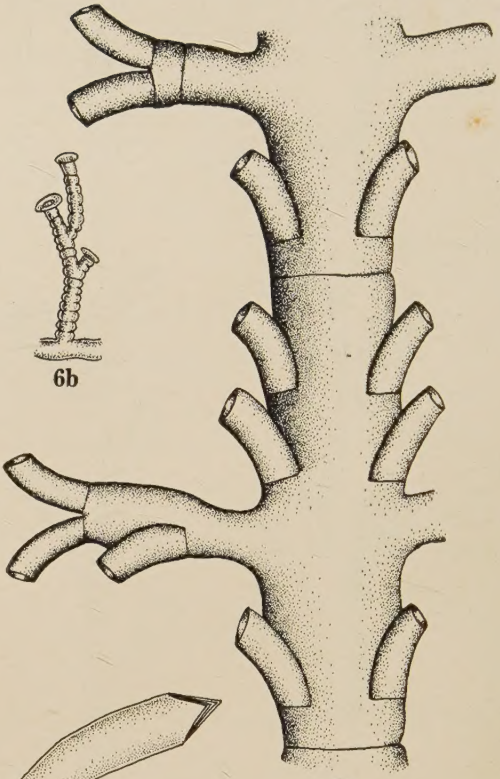

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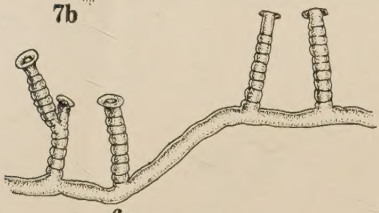

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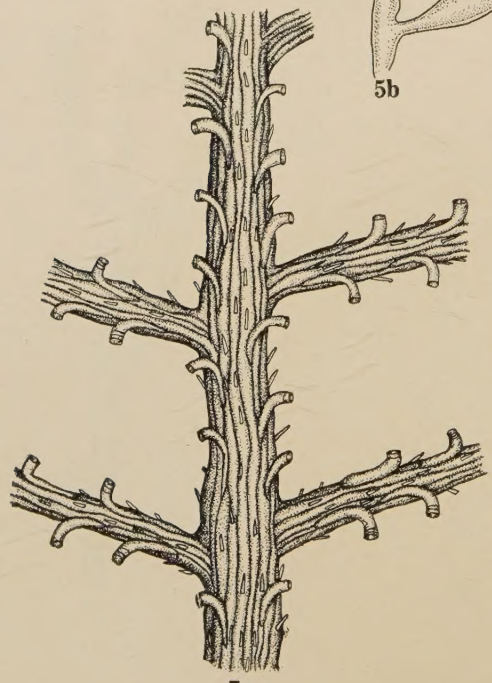

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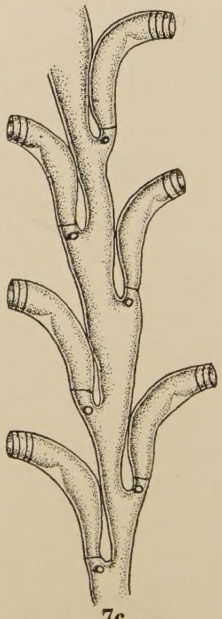

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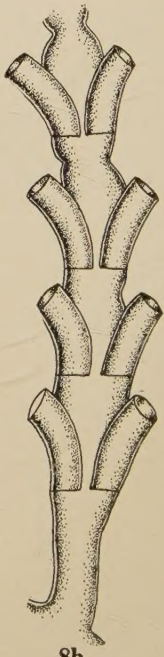

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NEW HYDROIDS.

FOR EXPLANATION SEE PAGE 580.